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ABSTRACT

This report examines the potential revolution in U.S. higher education public policies that require improved student learning. This revolution includes numerous teaching innovations activities that were initiated and sustained by external pressures and politically astute reformers. The report notes the criticism of U.S. elementary and secondary education and discusses how that criticism has spilled over into higher education. It examines reports which present the view that higher education is in deep need of reform. Faced with externally driven assessment and accountability movements, reformers have contended that the way to protect institutional autonomy from encroachment by external agencies is to focus on the importance of teaching and learning. Brief excerpts are presented from six voices of reform (Alexander Astin; Derek Bok and Richard Light; Ernest L. Boyer; K. Patricia Cross; and Lee Shulman) that highlight their vision of how to improve teaching and learning. Understanding that the assessment movement began as a drive for accountability at the national and state levels, rather than as local campus initiatives to improve teaching and learning, the paper offers insights on why major reform efforts were framed as demands that colleges and universities show better performance. The report concludes by examining the dilemmas that educational reformers face. (Contains 42 references.) (SM)

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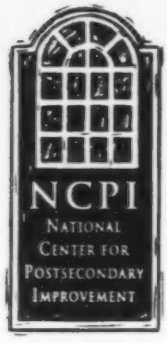

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Introduction

> *Is a teaching and learning revolution occurring in American higher education? Perhaps. Is a lot of rhetoric being expended on this potential learning revolution? Yes. Have public policies emerged to require or invite improved student learning? Yes. Are numerous teaching innovations being undertaken? Yes. What initiated and sustains these activities? External pressures and politically astute reformers. With all the activity, why are we so agnostic about a teaching and learning revolution?*

Rumblings about the quality of teaching and learning began as a sidebar to the economic difficulties and caustic criticisms of higher education during the 1980s. The critics saw higher education as a poorly run industry, fiscally irresponsible and managerially inefficient, and they focused on organizational restructuring and ways to constrain expenses. Almost as an afterthought, because they also recognized that the industry's business was teaching and learning, critics complained that college students learned too little, that professors had abandoned teaching, and that students were vocationally underprepared. The afterthoughts about the quality of teaching and learning grew. As the 1980s progressed, complaints intensified. Public officials picked them up and called upon professors to teach more efficiently. Officials suggested that the public had a right to see evidence that students were learning and that public accountability included educational outcomes, as well as the reports of auditing and accounting firms.

On campuses, conversations turned to teaching and curricular innovations. Some schools tampered with their general education requirements, revising required and elective courses; some developed interdisciplinary majors. Greater expenditures on technology to support teaching and learning occurred. A few schools, especially in the health professions, introduced competency-based learning. Teaching centers were established. Learning communities started to become popular, especially at residential schools. These efforts, and others like them, were attempts to rebalance the conversation about higher education by adding teaching and learning to the organizational restructuring, managerial changes, and cost-cutting that so dominated reform. As a consequence, how professors taught and how much students learned became part of the public dialogue over higher education.

National reports by higher education organizations were one forum for stimulating interest in teaching and learning, and criticizing curricular content, teaching practices, learning outcomes, and insufficient student involvement in their learning. The rhetoric was lofty—"value-added," "collaborative and cooperative learning," "classroom assessment," and "teaching as scholarship." Studies of the brain helped educators to better understand cognitive processes. For one of the first times in American higher education

history, attention focused not only on "what is taught," but "how it is taught," "what students learn, " and "how they learn it." Given the heightened attention to organizational change, the national conversation about teaching and learning that ensued raised questions about the mechanisms of change. Given the organization of higher education, how could reforms be implemented?

Many of the initial answers came from outside higher education: change had to be imposed by public bodies through a punishment-and-reward system activated through the assessment of learning outcomes. From within higher education the answer was quite different: professorial participation in shaping and implementing curricular and pedagogical change depended upon faculty buy-in. Faculty as a collective—as opposed to individual faculty members—had to be persuaded to take teaching and student learning seriously. To bring about this change, higher education's value and reward system would need modifications, including the elevation of teaching's status and a new understanding of teaching as a researchable, valued, and rewarded scholarly activity. This violated the prevailing norms that scholarship was more highly valued than teaching and that teaching was an individual faculty member's responsibility protected by academic freedom. Public demands for accountability had to be balanced, if not held in abeyance, by the sanctity of higher education's autonomy.

These conflicting presumptions—the public's demand for documented measures of accountability versus higher education's belief that its vitality depended upon maintaining its autonomy—shaped and constrained the teaching and learning revolution. Within those constraints, some within higher education have engaged in vigorous efforts to encourage professors to take learning seriously, even as resistance to change remains high. Conflicts over what to do to improve collegiate teaching and learning and the consequences of those conflicts are the subject of this essay.

American Education at Risk

The reform movement began as the U.S. economy stumbled and a wave of criticism overtook elementary and secondary education. The triggering event was the Reagan administration's publication of *A Nation at Risk* (1983). Authored by the National Commission on Excellence in Education, this publication charged Americans with committing economic and national security suicide by failing to uphold academic standards in their schools. The curriculum, the Commission believed, had been watered down—"dumbed down" was the commonly used phrase—teachers were ill-trained, money was being spent wastefully. Students knew little mathematics or science, read poorly, and wrote even worse. It was long past the time when public officials could ignore the nation's educational deficiencies.

A Nation at Risk initiated a national catharsis. State after state in the 1980s and early 1990s passed legislation increasing the requirements for high school graduation and demanding statewide standardized testing. The Reagan and Bush administrations, hardly proponents of increased federal intervention, introduced a national report card on how students were doing based on a series of standardized tests taken by elementary and high school students, while simultaneously opening debate about the creation of national academic achievement standards. States quickly joined in, legislating more rigorous high school graduation requirements, standardized learning assessment, and establishing minimum learning standards review committees in a variety of subjects. Mandates for more comprehensive teacher assessment paralleled the creation of new organizations or invigorated interest from existing organizations to hold teachers to higher academic standards. Educational outcomes—what students actually knew—took on greater importance, with the debate centering on how to determine what they should know and how to implement measures to make more learning happen. The movement to improve the quality of elementary and secondary learning was given still further impetus when the results of international achievement tests showed American students to be behind their counterparts around the world (Elmore and Fuhrman, 1990).

By the early 1990s, the charges that America's public schools were malfunctioning had stimulated a host of efforts, some contradictory, to improve the quality of teaching and learning. The tension between accountability measures, largely driven by those outside the educational system, and the attempts to reconceptualize the environments for students' learning was often palpable. Demands for higher academic standards and more standardized testing of outcomes, a more rigorous curriculum, better teacher training, portfolios that assessed student learning, the reorganization of school districts and individual schools into smaller entities, the creation of charter schools, greater parental choice, and increased parental involvement in their children's education, all competed with one another. At the same time, a new mantra of learning, based in part upon research into how children learn, told educators to make schools more "learner-centered." Translated, this seemed to mean some combination of holding all students to higher academic standards, emphasizing active learning and student engagement, making schoolwork relevant to students, and individualizing instruction.

Inescapably, criticisms of elementary and secondary schooling spilled over into higher education. One source came from the corporate sector. During the early 1980s, with a national economy in the doldrums and seemingly being overwhelmed by Asia's boom, corporate leaders undertook massive restructuring of their operations. They quickly conceived of higher education's problems in the same terms, as ones of organizational inefficiencies, weak governance and decision-making structures, poor leadership, and excessive costs of operation artificially hidden by rapidly rising tuition charges. Politicians weighed in, painting higher education with the same "tax and spend" brush that so successfully spearheaded Republican political triumphs. Public colleges and univer-

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sities were like other public agencies—overly subsidized and protected by government from the rigors of marketplace competition. Professors became another version of federal bureaucrats. Angrily, critics charged that professors taught too few students for too few hours with too little interest. Academic leaders were denounced as weak and obstructionist, unwilling or unable to make forceful decisions in a timely fashion. As Harvard's president, Derek Bok, noted in the mid-eighties, "Governors and other public figures are openly wondering just what results are being obtained in exchange for the billions spent on higher education" (Bok, 1986).

The attacks were vitriolic, the kind of anger that comes from trust betrayed. The higher education system that Americans had trumpeted since World War II as the world's model of meritocratic egalitarianism had badly stumbled and was in urgent need of repair. In what became the standard litany of the 1980s, Chester Finn, Jr., a former official in the U.S. Department of Education, issued an indictment of colleges and universities for admitting unqualified students, coddling them, and resisting genuine assessments of student learning. Explicitly tying his critique to the emergent criticism of America's public schools, Finn charged that "American colleges and universities have thus far largely escaped the intense scrutiny to which our elementary and secondary schools have been subjected. This reprieve should not, however, be taken as proof that higher education has somehow eluded the qualitative decay that has weakened the schools" (Finn, 1984).

Voices from corporate America reinforced these views. With corporate leaders, newly created multimillionaire entrepreneurs, and Wall Street financial managers becoming major players on state boards of higher education and boards of trustees, the corporate voices concentrated on organizational and economic failings, faulting colleges and universities for not adopting the principles of corporate capitalism—cutting costs, reengineering and restructuring business operations, and demanding more efficient and more productive workers. In contrast to the world of business, colleges and universities lacked serious mechanisms of accountability; there seemed to be no genuine bottom line.[1] The poor educational skills of college graduates were linked to the economic difficulties confronting the nation.

Spurred by similar concerns, public officials began asking questions about undergraduate performance. As Governor John Ashcroft of Missouri, chair of the National Governors' Association Task Force on College Quality, wrote, "The public has the right to know what it is getting for its expenditure of tax resources; the public has a right to know and understand the quality of undergraduate education that young people receive from publicly funded colleges and universities. They have a right to know that their resources are being wisely invested and committed" (National Governors' Association, 1986). Echoing themes found in the critiques of public schools, public officials called for greater accountability from colleges and universities.

Learning, Assessment, and Accountability

The view that higher education was in deep need of reform found expression in a host of national reports through the 1980s, from the National Institute of Education (1984), the National Endowment for the Humanities (Bennett, 1984), the Association of American Colleges (1985), and the Carnegie Foundation for the Advancement of Teaching (Newman, 1985). Perhaps the report with the greatest public policy impact, the National Governors' Association's *Time for Results* appeared in 1986. Chaired by three of the country's most prominent governors—Lamar Alexander of Tennessee, Bill Clinton of Arkansas, and Thomas Kean of New Jersey—*Time for Results* painted a broad canvas of what was needed for states to improve the condition of elementary, secondary, and collegiate education. To the governors the need for reform was self-evident: Economic productivity required a better-educated workforce.

The report's task force on college quality concentrated on learning, or more accurately, as the task force's chair wrote, on the lack of "a systematic way to demonstrate whether student learning is taking place." For the governors, the central learning issue was assessment: "The Task Force on College Quality decided to focus on how colleges and universities can *demonstrate* that student learning is occurring. In addition to investigating how colleges and universities can assess student learning, the task force also studied data on how student outcomes can be used to assess the effectiveness of academic programs, curriculums, and institutions" (National Governors' Association, 1986, pp. 20-21, 154-165).

Ashcroft and his colleagues highlighted the dominant theme in the public's perception of what was needed to improve higher education—stronger measures of accountability. Public assessment of student learning was especially important because it would hold colleges and universities accountable in their primary business, teaching and learning. Assessment of student learning was a way to account for the large expenditures of public funds given to higher education, a way to justify the powerful influence colleges and universities had in awarding status to individuals, and, for some, a way to reverse the public's loss of confidence in higher education. In this sense, the assessment of learning paralleled the bottom line in business, a way to account for the investments and a mechanism to improve return on investment.

Assessment as public policy grew swiftly. Whereas almost no state in the early 1980s required institutions of higher education to assess its students' learning beyond the usual fare of course examinations and papers, by the end of the decade more than 40 states had taken action designed to get public universities and colleges to assess learning outcomes, and all six regional accrediting associations included outcomes assessment in their criteria for accreditation of both public and private institutions. Assess-

ment of student learning, Patricia Hutchings and Theodore Marchese of the American Association of Higher Education concluded in 1990, was becoming "a condition of doing business" (Hutchings and Marchese, 1990).

Actual state assessment polices varied, from those that mandated statewide testing of students (e.g., Florida) to those that sought to encourage institutional reporting on a variety of indicators of effectiveness as part of a general review process (Aper and Hinkle, 1991). Most states opted to require institutions to develop their own local assessment processes consistent with their missions and student consumers. Such an approach was intended to acknowledge institutional autonomy and to allay schools' fear of inter-institutional comparisons. At the same time, set-aside funds were made available to institutions in the form of grant-like incentive pools to encourage instructional innovation consistent with assessment.

At the federal level, the Fund for the Improvement of Post-secondary Education (FIPSE), which had historically been at the center of efforts at innovation, turned its support to the development of campus assessment programs. The National Association of State Universities and Land-Grant Colleges (NASULGC) responded to the continued expansion of state assessment efforts by promulgating guiding principles regarding assessment policies, including focusing on the effectiveness of academic programs and the improvement of student learning and performance, calling upon states to use incentives rather than regulations or penalties, and to develop such incentives collaboratively with faculty.

Fairly early on then, the broad shape of the assessment movement was set. States pressed colleges and universities to take the assessment of learning seriously and to use the outcomes evidence to reshape their curriculum and to alter teaching in order to improve what and how much students learned. Higher education organizations, like NASULGC, urged states to provide incentives for institutions to use learning assessment as a mechanism of change and urged campuses to "own" assessment as a way to improve academic programs and increase student learning—and not incidentally, to protect institutional autonomy.

On one level, Hutchings and Marchese were right: By the early 1990s the assessment movement was making major inroads into higher education and was playing an important role in prodding colleges and universities to talk about student learning. Many institutions had developed assessments. However, faculty tended to view assessment as externally imposed and having little to do with their business of research and teaching. Assessment was yet another reporting requirement, and faculty responded negatively to the intrusiveness of the demands. With few incentives to cooperate—at least, as perceived by faculty—professors showed little enthusiasm for being held responsible

for student learning. The traditional norm was that professors brought knowledge to the classroom and taught it; college students chose to learn or not. Postsecondary education, after all, was optional, not compelled. That norm among faculty was not easily overturned (Hutchings and Marchese, 1990; Ewell, 1999; Banta and Associates, 1993).

Multiple problems existed. One involved the conflicting messages both being sent by the externally driven assessment movement and being received by institutions. Because the assessment emerged out of the cascade of criticism about higher education, it became inseparable from efforts to hold colleges and universities accountable and often seemed more about accountability than about improving the quality of learning. Those faculty genuinely interested in improving student learning thus found themselves fighting against a perception that doing so would be to capitulate to the bullying tactics that threatened higher education's autonomy. Public bodies found the organizational complexities of colleges and universities confusing and frustrating. Most institutions had little experience in collective decision-making and even less in having to make and implement decisions quickly. The trends of the previous decades with regard to teaching and curriculum were to leave such decisions to individual faculty members and departments. It was hard to hold a meaningful conversation or to agree on the rules of the game in such circumstances.

There were also serious and almost totally unaddressed questions about the relationships between assessments of learning and changes in academic programs and teaching. What did it mean to instructors when they were told that their students were not performing well on writing or historical knowledge? There were the dilemmas of measurement itself as well. Faculty rightly asked, "what do we want to know?" "why do we want to know it?" and "how should we measure it?" Such questions were both defensive reactions to external pressures and genuine attempts to comprehend what was worth doing and how.

By the early 1990s, it had become obvious that state-mandated assessments had not altered undergraduate education; public officials consequently lost patience with the slow pace of change and the occasional outright resistance of some (often prominent) institutions to the assessment agenda (Ewell, 1999). They became frustrated over the difficulties in getting clear measures of what students were learning and the difficulties in comparing data across institutions when assessment measures were being created institution by institution, all of which they believed were necessary to make budgetary and funding allocation decisions. With change barely noticeable, state legislatures and state boards of higher education shifted from the view that colleges and universities should set the terms of campus-based assessments, thereby giving substantial freedom to institutions and complicating inter-institutional comparisons, and started to demand more standardized and more easily measured indicators of performance: enrollment

and graduation rates; degree completion and time to degree; persistence and retention rates; remediation activities and indicators of their effectiveness; transfer rates to and from two- and four-year institutions; pass rates on professional exams; job placement data on graduates and graduates' satisfaction with their jobs; and faculty workload and productivity in the form of student-faculty ratios and instructional contact hours (Burke and Serban, 1998[b]).

The shift to performance outcomes and common indicators that could be more easily obtained, more easily quantified, and more easily compared attested to the complexities involved in measuring learning, and were simpler ways public agencies could make comparative analyses for budgetary allocations. These kinds of measurable outcomes could be viewed as alternative ways of assessing teaching and learning; graduation rates, amounts of remediation, degree completion time, job placement, and faculty workload could serve as surrogates for direct measures of learning. And such data could be gotten from more compliant college and university administrators without excessive dependence on faculty buy-in. In short order, efforts shifted from state mandates that institutions create campus-based assessments to the creation of state-required performance funding and performance budgeting. The former tied state funds directly to public college and university achievement of designated indicators; the latter took a laundry list of indicators into consideration in determining higher education budgets.

During the 1990s, the movement toward common indicators tied to institutional and system-wide performance outcomes achieved robust growth. By 1998, half the states used some form of performance indicators in their budgetary allotments to institutions and statewide systems, including performance budgeting: Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Mississippi, Nebraska, North Carolina, Ohio, Oregon, Tennessee, Texas, and Washington. The Rockefeller Institute of Government projected that even more states were likely to move in that direction in the next five years (Burke and Serban, 1998[a]). Although most performance-based budgeting policies affected less than 5 percent of the higher-education budgets—much of it new money offered as incentives—the policies were explicitly aimed to get institutions to change the ways they did business. In Tennessee, the first state to implement performance budgeting, roughly 5 percent of the state's budget for higher education was earmarked for incentive bonuses for institutions that met or exceeded state-determined and institutionally-defined goals, such as improved student performance on various tests and student and alumni satisfaction with their education. South Carolina's General Assembly passed a more ambitious financing system in 1996, in which the amount of money that each public college receives from the state depends entirely on its progress in meeting a list of goals (Schmidt, 1996).

By the end of the 1990s, the assessment movement was both flourishing and in shambles. As an externally driven phenomenon, the movement had literally forced student learning onto higher education's agenda. By the end of the 1990s, a survey of chief academic officers at almost 1,400 public and private institutions showed that the overwhelming majority—between 74 percent and 96 percent depending on the measure—reported collecting student assessment data, including progress to degree, basic college readiness skills, academic intentions, and student satisfaction with their undergraduate experience. But beneath the movement's rapid implementation were some jolting revelations. Only around a third of the institutions assessed students' higher order learning skills, affective development, or professional skills. The use of alternative forms of assessment, like the much talked about portfolios, capstone projects, and observations of student performance was infrequent. "Most institutions' approaches emphasize the use of easily quantifiable indicators of student progress and pay less attention to more complex measures of student development." Most powerfully, there was little evidence that any of the institutional assessment measures were being used either to improve institutional approaches to student learning or to make budgetary allocations (NCPI, 1999).

The assessment movement was neither assessing learning in any direct sense nor was it connecting the findings of the assessments to faculty teaching, evaluations, or rewards. The disjunction between the assessment and faculty behavior remained substantial. To some extent, these failures derived from the externally driven nature of the assessment movement. Campus conversations often became mired down in complaints over assessment's imposition and its threats to academic integrity rather than on the ways faculty taught and students learned. In contrast to the more hierarchical governance of corporations, higher education institutions had little experience in reaching collective decisions linked to quick implementation. Faculty trained to teach their disciplines showed little interest in assessments that went beyond the norms of course examinations and papers; they rarely possessed much understanding of how to link data from assessments to the ways they taught. Institutions themselves were reluctant to press for concrete linkages between assessment's findings and faculty classroom activities. For many faculty, a heightened emphasis on teaching and learning seemed to put their commitments to research, and the status attached to research, at risk. While most academic administrators—72 percent in the survey cited above—reported they strongly supported student assessments, these same administrators identified only 24 percent of their faculty as being very supportive of student-assessment measures. Interpreting the survey, Ted Marchese, *Change's* executive editor and vice president of the American Association for Higher Education, concluded: "the assessment movement, following 15 years of imprecation and mandate, has produced widely observed rituals of compliance on campus, but these have had only minor impacts on the aims of the practice—to improve student learning and public understanding of our contributions to it. To say the least, this is a disappointment" (Marchese, 1999).

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Voices of Reform

The assessment movement was a high-profile public campaign to improve the quality of teaching and learning on college and university campuses. Its ambiguous results during the 1980s and 1990s attested to the difficulties of externally imposing changes on the ways institutions, and especially faculty, went about their business. From within higher education itself, however, other attempts to kindle stronger allegiances to the quality of student learning were being undertaken. In particular, a small group of individuals, in many cases linked to national higher education organizations, led a campaign to get colleges and universities to take teaching and student learning seriously. They were joined by faculty and administrators on countless campuses pressing to reorient and invigorate their schools' commitments to teaching and learning by connecting their goals to institutional missions and academic values.

Aware of how politically difficult change would be, especially at the large research-oriented universities, the learning reformers recognized the need to play the "imperative" card, that external pressures demanded change, while being careful not to provoke further faculty backlash with heavy-handed threats. They understood that professors held fast to the norms of faculty autonomy, the right to pursue the research of their choice and to conduct their classes largely unfettered by bureaucratic constraints. The reformers appreciated that higher education's value system, even at many self-described "teaching" institutions, placed research at the top of the status hierarchy. It was thus necessary, the reformers believed, to show that teaching could be a scholarly, researchable activity. The reformers recognized that most professors knew little about alternative forms of teaching or ways of assessing their teaching, and that changes in teaching practice were time consuming. The learning reformers understood that their calls to invigorate teaching and learning challenged higher education's institutional culture. [2]

The national and local conversations that emerged were both defensive and proactive, designed simultaneously to blunt the interventions of external agencies and to turn faculty attention toward teaching and learning. The reformers called upon colleges and universities to make teaching and learning legitimate subjects of research and to focus on assessment and research in the classroom. A new language about the scholarship of teaching emerged, along with recommendations to modify a rigid research-oriented promotion system for faculty. Faced with the externally driven assessment and accountability movements, the reformers contended that highlighting the importance of teaching and learning would protect institutional autonomy from encroachment by external agencies. Acknowledging the highly competitive market for students, they understood that the failure to show substantial interest in student learning undermined an institution's attractiveness to students, with resulting fiscal consequences. Perhaps most poignantly, they valued student learning for its own sake, believing that higher education had been led astray in neglecting it.

In the sections that follow, we outline six higher education reformers' visions of how to improve teaching and learning: Alexander Astin of the Higher Education Research Institute at UCLA; Derek Bok and Richard Light of Harvard University; Ernest Boyer of the Carnegie Foundation for the Advancement of Teaching; K. Patricia Cross of the University of California, Berkeley and the American Association for Higher Education (AAHE); and Lee Shulman of Stanford University and the Carnegie Foundation for the Advancement of Teaching. They were not alone; on numerous campuses, groups of faculty and administrators engaged in battles to reshape faculty and student responsibility toward learning. But these six captured national attention; they were frequently cited and used on campuses to make the case for reform. Their stories illuminate what was happening.

Learning Environments: Alexander Astin

In the early and mid-1980s, Alexander Astin, director of the UCLA's Higher Education Research Institute, articulated two paths for learning reformers to follow. Having achieved national prominence for his work on student values, most notably through an annual survey of college freshmen that ultimately would be administered to more than 375,000 each year at about 700 two- and four-year colleges, Astin's first path challenged higher education's ways of measuring educational quality; his second called for a new emphasis on learning environments.

Astin began by claiming that the four traditional standards typically used to measure quality were badly flawed:

- quality as measured by *resources* (e.g., endowment, external research funding);
- quality as measured by *reputation* (e.g., faculty prestige, professional attainment of graduates);
- quality as measured by *student outcomes* (e.g., retention and graduation rates, salaries of graduates); and
- quality as measured by *curricular content*.

These measures had little to do with the actual accomplishments of colleges in teaching their students. They said nothing about results—how well a college's students learned what they were taught. A college's quality, he argued, should instead be measured by the value added to its students' learning and by the extent to which a college extended the talents of its students (Astin, 1985). If learning was to be taken seriously, higher education had to factor learning into assessments of institutional quality—and by extension, into an institution's prestige.

Astin's second path more directly attended to learning itself: campuses and classrooms had to be reorganized to engage students if they were actually to learn. Initially in articles and then more widely under the aegis of the National Institute of Education's *Involvement in Learning* (1984)—Astin was a member of the panel that drafted the report—he argued that effective learning required high expectations, student involvement in their own learning, and assessment and feedback as a means of furthering learning, themes similarly being articulated by many K-12 educational reformers.[3] The standard methods of teaching—lecturing and discussion sections—would not engage students.

By the mid-1980s, Astin's emphasis on student academic outcomes based on assessments of "value-added" as measures of institutional quality and his belief that campuses could be reorganized to focus on learning were being picked up. In 1985, the Association of American Colleges' *Integrity in the College Curriculum* (1985) also defined educational quality in terms of student learning. Beginning with "the problems"—declining SAT scores; college graduates with serious deficiencies in writing and lacking scientific and technical understanding; a curriculum without depth, breadth, or coherence; and professors who were too specialized and too concerned with research—the report advocated a college curriculum that emphasized modes of inquiry rather than a set of required courses. Colleges should emphasize "how to learn" rather than "what to learn," phrases congruent with Astin's views (Wagener, 1989).

Astin's voice sketched out two of the paths that learning reformers would travel in the 1980s and 1990s. The first claimed that as long as measurements of institutional quality and status failed to include an institution's contribution to student learning, little incentive existed to improve teaching. The second contended that learning could not be improved without altering campus and classroom learning environments. Learning had to matter in the reputational rankings of institutional quality and students had to be involved in their own learning if they were to learn. The paths were simultaneously clear and hard to follow.

The Harvard Dynamic: Derek Bok and Richard Light

Derek Bok, Harvard University's president from 1971 to 1991, was an unlikely candidate to push teaching and learning reform. But, like most other leaders of private higher education in the 1980s, Bok was concerned with the public's anger and bewilderment about skyrocketing tuition and the results of the billions of dollars annually spent on higher education. For the private sector, pressure to reform came from parents, potential students, the media, and a heightened competitive environment, not from state legislators and state accountability measures. Responding to these pressures, Bok asked, "What do we really know about the value of a college education? In fact, the evidence we have is at once thin and disturbing.... There is little cause for celebration in research

findings indicating that the average [college] senior knows only as much as students at the 84th percentile of the freshman class; it is even more disturbing to note other findings that reveal much lower rates of progress in such important activities as critical thinking and expository writing." Adopting Astin's language of value added, without acknowledging it, and essentially accepting the powerful pressures demanding that higher education develop a marketplace bottom-line, Bok concluded that universities and colleges had to show that they genuinely added to their students' knowledge. He urged faculty to determine common goals for undergraduate education, to connect those goals to their individual teaching, and to work to help students learn how to learn. While not giving way on the importance of research faculty at research universities, Bok exhorted the higher education community to take teaching and student learning seriously (Bok, 1986).

Seeking to reshape how college students learned was not a new phenomenon for Harvard, although the voice of reform had been largely absent from national conversations about education since the 1960s. That had not always been the case. In the last decades of the nineteenth century, Harvard President Charles William Eliot instituted a revolution in higher education by making electives—faculty and student choice in what to teach and learn—the centerpiece of the university's curriculum. The "house system" of the 1920s at Harvard and Yale ushered in a conception of living and learning that became a continuing motif of educational reformers. In the immediate aftermath of World War II, the Harvard faculty's *Redbook* articulated an approach to undergraduate education that emphasized general education in the interests of creating more knowledgeable and responsible citizens.

Still, Bok's entry into the national debate about teaching and learning was surprising. Even more so was his decision to ask his Harvard colleagues to examine Harvard's learning environment, an examination that Bok himself was undertaking in his annual reports on the quality of the university's schools. To facilitate the examination, he turned to a statistics professor, Richard Light, who held appointments at both Harvard's Graduate School of Education and the Kennedy School of Government, to oversee a series of seminars with people from within and outside Harvard. Beginning in the fall of 1986, an initial group of 27 Harvard faculty and administrators convened the Harvard Assessment Seminars; over the next four years the group expanded to include more than 100 people drawn from more than two dozen colleges and universities. They sought to "encourage innovation in teaching, in curriculum, in advising, and to evaluate the effectiveness of each innovation." Bok himself expressed his commitment to the enterprise by attending the Seminar's regular monthly meetings for the first six months of their existence.

Working in small groups comprised of faculty, administrators, and students, the Seminars surveyed samples of Harvard College undergraduates and alumni and then issued two nationally disseminated reports, frequently referred to as the Light Reports. Among

the report's findings: Student learning increased when students had immediate feedback on quizzes and assignments and when they were given opportunities for revision. Students learned better in small classes, when they used study groups, and when they shared their written papers with peers ahead of class. Not surprisingly, the findings were congruent with Alexander Astin's views and the National Institute of Education's *Involvement in Education*. The most often cited teaching tip derived from a suggestion of Seminar participant K. Patricia Cross, that professors should use a "one minute paper," which asks students to respond to two questions at the end of each class: 1) What is the big point you learned in class today? and 2) What is the main unanswered question you leave class with today? Each of the questions was designed to foster student learning through active listening and to get students to think of the broad goals of the class rather than the details of any particular topic. As we discuss below, Cross' instant replay paper was also part of her effort to channel higher education's assessment movement into classroom practice based on what faculty believed they were trying to accomplish.

The Harvard Assessment Seminars helped advance discussions of teaching and learning among Harvard's faculty, administrators, students, and alumni, while staying clear of any substantial assessment of Harvard's teaching practices or student outcome measures, ironically, two of things Bok had found most important.[4] The reports' larger national impact was considerably more substantial.

The response to the Light Reports was immediate—Light calls it "astonishing"—for they hit the higher education community at precisely the moment when teaching and learning were becoming public issues. Light initially requested that 1,000 copies be printed, primarily for distribution within Harvard. By the late 1990s, he had received 18,000 requests for copies; the number reproduced on campuses is incalculable. Much to his surprise, Light became a national spokesperson for improved teaching and a greater focus on student learning. His advice was sound and practical: pay more attention to how your students learn, stimulate greater interaction among them, respond quickly to their work, and ask them to assess what they have learned on an ongoing basis. Although the reports shied away from confronting higher education's research-oriented reward and value system, they contained within them an implicit and potentially powerful notion: professors should take greater responsibility for how much their students learn.

The Light Reports further legitimized the emergent focus on teaching and learning. Derek Bok's challenge that colleges and universities show value-added learning as an outcome of enrollment helped to push higher education toward a greater focus on outcomes, toward some notion of the business world's bottom-line. The reports' proposals to modify teaching in the interests of greater student learning brought substance to what were often vague pleas to teach better. And, the implicit notion that faculty had more direct responsibility for how much their students learned held the seeds of a potential revolution.

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The Scholarship of Teaching: Ernest L. Boyer

In the half-century after World War II, higher education's faculty reward system became dominated by the ethos of research. Institutional stature and individual professorial prestige were intimately connected to research productivity, externally funded research grants, and awards for scholarly research. So powerful was the ethos of research that many colleges and universities with self-proclaimed teaching missions substantially increased the role of research in faculty hiring and promotions during the 1970s and 1980s. The conundrum was simple to state, but exceedingly difficult to resolve. Given the enchantment with research, how could institutions and faculty be convinced to dignify teaching with the same status as research? How could higher education shift from teaching as an honored but invisible activity, to use W. Norton Grubb's phrase, to teaching that was both honored and visible (Grubb, 1999)?

The answer was actually quite simple, at least at the level of rhetoric. For Ernest Boyer, as well as for K. Patricia Cross and Lee Shulman whom we discuss below, higher education had to connect teaching and learning to faculty disciplinary and professional communities. In particular, Boyer believed that scholarship could be redefined in such a way as to incorporate a wide variety of faculty work, including teaching.

President of the Carnegie Foundation for the Advancement of Teaching between 1979 and his untimely death in 1995, former U.S. Commissioner of Education, and former Chancellor of the State University of New York, Boyer's solution to the dilemma of how to give teaching public importance was brilliant: teaching would be recognized as a legitimate subject of research. As such, it could be subjected to the same kind of peer assessments as research. Rather than attacking higher education's preoccupation with scholarly productivity, and thus asking higher education to choose between research and teaching in a zero-sum game, Boyer called for teaching itself to become a scholarly activity.

Two reports by the Carnegie Foundation, both issued in 1987, initiated Boyer's campaign. Burton R. Clark's *The Academic Life* (1987) covered the landscape of what constituted professorial work. A well-respected sociologist whose article on the "cooling-out process" of community colleges was considered seminal by higher education scholars, Clark's report highlighted the "paradox of academic work": most professors teach most of the time and many professors teach all of the time and do not publish scholarly studies, but teaching is neither highly valued nor highly rewarded. Rewards went for something in which only a very limited number of professors were engaged—research (Clark, 1987, p. 98).

Boyer's *College* (1987) presented the results of a three-year study of 29 colleges, highlighting a series of tensions embedded in higher education: discontinuity between colleges and schools, student-versus-faculty expectations in the classrooms, and the

pressure to publish versus teaching commitments. These tensions, Boyer believed, manifested a deep confusion over institutional goals and revealed the need to establish a clear and vital collegiate mission. And that required an "integrated core...a program of general education that introduces students not only to general knowledge, but to connections across the disciplines, and in the end, to the application of knowledge to life beyond the campus" (p.91).

Boyer's complaints and his proposed integrated core within a general education program were hardly new. Like Richard Light's reports, his curricular prescriptions did not seem likely to elicit much comment or attention. Boyer's centrality in the emergent discussion of learning came instead from his attempt to resituate teaching as a research activity. Highlighting Clark's finding that most professors spent most to all of their time teaching, Boyer claimed that most faculty, even those at small teaching colleges, nonetheless believed that research was more highly valued than teaching. Professors believed they worked in a system in which their primary activity—teaching—was diminished. And that problem, they and Boyer concluded, was rooted in a reward system that overemphasized research.

Boyer's answer, articulated in his most widely cited and controversial work, *Scholarship Reconsidered: Priorities of the Professoriate* (1990), was to broaden the definition of scholarship itself by defining in more creative ways what it meant to be a scholar (p. vii). Rather than reject the value of scholarly research, a position that would have pitted him against the dominant trend of postwar higher education, Boyer sought to convert teaching into a legitimate scholarly endeavor. He began by articulating four separate but overlapping functions of scholarship: discovery, integration, application, and teaching. He affirmed the importance of "the scholarship of discovery" (basic research) and of applied scholarship devoted to resolving social, economic, and ecological problems, the two kinds of research higher education traditionally recognized and rewarded. But Boyer went further arguing that professors should be promoted and tenured for writing textbooks, for popular writing, for consulting and technical assistance to organizations, all ways of integrating knowledge and communicating it to larger audiences than those reached by traditional scholarship. These areas were infrequently taken into account by scholarly review committees. To give teaching even more legitimacy, he believed, it needed to have its own rigorous assessment process. Boyer's message was to give teaching the same weight as research by subjecting it to vigorous assessments and by allowing professors to consider the creation of curriculum and the improvement of their teaching as a scholarly activity.

Boyer was tireless in disseminating his views. It seemed that *Scholarship Reconsidered* was placed on almost every college and university president's desk, a way of announcing to faculty and the public that "my institution" was paying attention. Professional

organizations hosted sessions, often with Boyer as the keynote speaker. College and university administrators wanting to increase faculty commitments to teaching and to improve their quality began to use Boyer's work to require fuller teaching dossiers in promotion and tenure decisions. Teaching as a scholarly activity—a phrase borrowed from elementary and secondary classroom research—became a new higher education buzz word, what Lee Shulman, who replaced Boyer as head of CFAT, called the rendering of "one's own practice as the problem for investigation" (Shulman, 1999).

And yet, while it became harder in the late 1980s and early 1990s to ignore poor teaching, especially as institutions competed for students, and while some Ph.D. programs expressed greater interest in having their students become better teachers, there was an add-on quality to the new emphasis on teaching. Boyer's efforts seemed to further complicate being a professor, for one had to be successful as a disciplinary-based researcher and as a researcher of one's own teaching. Faculty promotion required successful teaching with no diminution of research productivity, while adding a second line of research.

Nonetheless, Boyer's proposal to give teaching greater weight by according it scholarly status received enormous rhetorical support and helped make teaching and learning a legitimate conversation on college campuses. At the end of the 1990s, his commitment to teaching as a scholarly activity received a substantial boost when the foundation he had led, in cooperation with the American Association for Higher Education, initiated major efforts to convert "rhetoric to action" (Hutchings and Shulman, 1999; Shulman, 1999. See the discussion of Shulman below.) Boyer's re-conceptualization had been brilliant, offering an avenue to integrate teaching with scholarship for institutions reluctant to diminish their research agendas. Politically astute in understanding higher education's ethos, he had provided a window through which the learning reformers could climb.

Classroom Assessment and Classroom Research: K. Patricia Cross

Most of higher education's teaching and learning reformers were stronger on ideas and sweeping proposals than on developing concrete ways to change collegiate classrooms. Ways to implement new pedagogical strategies, deepen student learning, and be more creative in assessing learning were few and far between. The state-based assessment movement offered little help. While legislators and governors demanded greater accountability for learning, they essentially left methods to the same campuses and the professors who had, by and large, neither been invested in student learning nor been particularly creative in how to teach so that students learned more.

How to conduct classrooms in which students learned more had, however, begun to attract the attention of a few individuals and organizations. None was more influential than K. Patricia Cross. An initial member of Light's assessment seminars while a Senior

Lecturer at the Harvard Graduate School of Education before becoming Gardner Professor of Higher Education at the University of California, Berkeley, Cross established an international reputation during the 1970s at the Educational Testing Service for her work on community colleges, adult learners, and lifelong learning (*Beyond the Open Door*, 1971; *Accent on Learning*, 1976; *Adults as Learners*, 1981). As an officer of the American Association for Higher Education and a member of its board of directors, she actively pressed student learning as higher education's primary agenda. Cross believed that teaching was a profoundly intellectual challenge, one refreshed by the opportunity to assess the impact of one's teaching on students' learning. It was thus important, if the learning reform movement was to make serious inroads in higher education's practices, to make its ideas concrete. More than anyone else, she did that by offering advice on how to assess one's teaching and undertake classroom research to the benefit of students. Connected by her earlier work to the nation's community colleges and using her stature to gain access to public universities especially, Cross made "how to do it" her calling card.

During the 1980s, Cross contributed two arguments to the learning reform movement. First, she found that almost no relationship existed between research on learning and collegiate teaching practices; college teachers paid little or no attention to what their learning research colleagues discovered. Second, she concluded that student feedback and the assessment of students could be used to improve teaching and student learning, provided these were done in a timely manner. The learning research community was having so little impact on college campuses because its work failed to pay attention to the actual classroom experiences of teachers—a charge also being laid against researchers in elementary and secondary education. Researchers thus talked *at* rather than *with* faculty in an environment that undervalued teaching anyway. Professors were either oblivious to the research or ignored it, helping to explain why national reports seemed more like rhetorical flights than agendas for change. Reflecting on the disconnect between learning research and teaching practice in a 1998 speech, Cross declared:

> I am distressed to see researchers—the acknowledged authorities of our times—talk about learning with no reference to the experience of teachers who have spent lifetimes accumulating knowledge about learning. But I am equally distressed to see workshops on faculty development in which faculty exchange views about student learning with no reference to what scholars know through study of the matter (Cross, 1998).

Developing her arguments throughout the 1980s and into the 1990s, Cross consolidated her views on assessment and research in the classroom in two books, *Classroom Assessment Techniques: A Handbook for College Teachers* (with Thomas Angelo, 1993) and *Introduction to Classroom Research* (with Mimi Harris Steadman, 1996). College faculty could not be effective teachers unless they knew how to assess their teaching and their stu-

dents' learning. There were, she believed, techniques—like the one-minute paper, learning logs, and student learning goals—that opened doors to what students learned in the classroom, doors that traditional forms of assessment like term papers and examinations only partially opened because they provided so little direct feedback as to be of almost no aid to either faculty or students. Feedback and classroom assessments should be immediate, constant, and converted into changes in practice for teaching to result in genuine improvements in student learning (Cross and Angelo, 1993).

Introduction to Classroom Research summarized and extended these views by taking the rhetoric about the scholarship of teaching and giving it "operational definition." Since Cross believed the experiences of classroom teachers were the essential starting place for improvements in teaching and learning, she urged professors to engage in their own classroom research: observing students in the act of learning, reflecting and discussing observations and data with teaching colleagues, and reading the literature on learning. Determined to help faculty understand their teaching practices in order to improve student learning, Cross outlined the characteristics of classroom research:

- learner-centered: the attention of teachers and students is focused on observing and improving learning, rather than teaching;
- teacher-directed: classroom research changes the focus from teachers as consumers of research to teachers engaged in studies of learning in their discipline;
- collaborative: students and teachers are partners in the research on learning;
- context-specific: classroom research involves the teaching of a specific discipline to a particular group of students;
- scholarly: classroom research requires identifying a research question, developing and carrying out a research design (Cross and Steadman, 1996, pp. 2-3).

Cross' work on classroom assessment achieved widespread popularity. More than 50,000 copies of *Classroom Assessment Techniques* were sold. Beginning in the mid-1980s, the American Association for Higher Education, in which she played an important role, increased commitment to helping faculty and colleges in learning how to undertake classroom assessments. Numerous public and private universities and colleges, facing sharp criticisms from legislators and boards of trustees, concerned about their enrollments and retention rates, worried about the market consequences of dissatisfied fami-

lies, and wanting to distinguish themselves as places where students learned, used Cross' ideas to initiate reforms.

More so than any other higher education reformer, Cross sought to shift the focus of the learning movement by bringing it directly into the classroom, ceaselessly presenting her ideas to higher education organizations and institutions, and, not insignificantly, developing a core of colleagues, like her co-authors Thomas Angelo and Mimi Harris Steadman, to extend her mission. She reiterated Boyer's view that teaching was a scholarly endeavor and concretized it, showing how to undertake classroom research and continuous assessment. She thus used the status of research in an attempt to bring better teaching and improved learning to the classroom. Her arguments were both sweeping and concrete: Faculty should understand and use research on learning; professors should understand the different motivations, academic backgrounds, and learning styles of their students; and they should carry out research in their classroom to improve their own teaching and students' learning.

But Cross' very concreteness, her emphasis on how to do it, made collegiate teaching and professors seem akin to secondary school teaching and teachers. There was an aura of teacher education and teacher professional development in both her approach and her tone, with the ironic result that her claim that teaching was an intellectual activity risked being displaced by instruction in teaching methods. Her approach thus found greater appeal to faculty and institutions that identified with the problems facing high school teachers than it did with those whose primary identifications were with disciplinary scholarship. Faculty and institutions that took their cues from graduate level work found Cross' proposals too close to secondary education to be comfortable. She was appealing to only part of the academic marketplace.

By the end of the 1990s, Cross had spent more than two decades making the case that teaching and learning were the heart of the academic enterprise and that there were concrete ways to improve both, if only faculty wanted to do so. Her work generated enormous enthusiasm to improve teaching and learning and yet seemed insufficiently connected to what many professors thought of as scholarly. What Cross had shown was that it lay in the faculty's power to improve the quality of their teaching and thereby to improve student learning. It was in the faculty's power if only they would take the responsibility. And, in that, her work cast a long shadow over higher education's traditional ways of doing things.

Connecting Teaching to the Disciplines: Lee Shulman

It was apparent that with the appointment of Stanford University's Lee Shulman to the presidency of the Carnegie Foundation for the Advancement of Teaching (CFAT), Ernest Boyer's efforts to create a scholarship of teaching would continue. For a number of

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years, Shulman had been calling for a tighter connection between the scholarly disciplines and the ways faculty taught; there were distinctive ways, for example, to teach history or chemistry that were connected to the discipline itself. Teaching was not primarily "methodology," but an activity that varied by the discipline being taught. Shulman's goal, when he assumed CFAT's leadership, was simultaneously to extend Boyer's notion of teaching as a scholarly activity and to convert that rhetoric into improved teaching practice.

Shulman and his graduate students at Stanford argued that teaching at all levels was not primarily a matter of learning the technique, an approach that he believed often dominated teacher education programs, but rather an enactment of teachers' understanding of their disciplines. Engaging in the teacher reform efforts of the 1980s and 1990s, he came down on the side of teachers' disciplinary knowledge as the necessary condition of effective teaching, a theme he initially applied to high school teachers and teacher preparation. Given his commitment to disciplinary-based knowledge, it was a relatively easy step for Shulman to add higher education to the mix since, for most college teachers, their discipline is the starting point for their teaching.

Because Shulman and his colleagues are committed to moving the scholarship of teaching beyond rhetoric and into practice, they have been at pains to define it, both as a form of scholarly endeavor and as a way to change teaching in the interests of student learning. Recognizing that each is a hard sell, combining them may be an insurmountable endeavor. Writing in 1999, in an attempt to clarify their understanding of the issues, Pat Hutchings and Shulman wrote:

> A scholarship of teaching is *not* synonymous with excellent teaching. It requires a kind of "going meta," in which faculty frame and systematically investigate questions related to student learning—the conditions under which it occurs, what it looks like, how to deepen it, and so forth—and so with an eye not only to improving their own classroom but to advancing practice beyond it. This conception of the scholarship of teaching is not something we presume all faculty (even the most excellent and scholarly teachers among them) will or should do—though it would be good to see that more of them have the opportunity to do so if they wish. But the scholarship of teaching *is* a condition—as yet a mostly absent condition—for excellent teaching. It is the mechanism through which the profession of teaching itself advances, through which teaching can be something other than a seat-of-the-pants operation, with each of us out there making it up as we go. As such, the scholarship of teaching has the potential to serve *all* teachers-and students (Hutchings and Shulman, 1999, pp. 13-14. See also Shulman, 1999).

Using his position as head of the Carnegie Foundation for the Advancement of Teaching (CFAT), with the help of Pat Hutchings (formerly director of AAHE Teaching Initiative and Assessment Forum and co-author with editor Ted Marchese of publications on teaching and assessment), Shulman established the Carnegie Teaching Academy in 1998 aimed at moving the scholarship of teaching from, as he put it, rhetoric to action. This six million dollar, five-year effort, funded by The Pew Charitable Trusts and CFAT, reinforced and extended what had by the end of the 1990s become the learning reformers' dominant *modus operandi*—the creation of a scholarship of teaching and learning that improves the quality of student learning through new models of teaching and raises the status of teaching.

The first of three components of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) is a national fellowship program that brings together over a five-year period 122 faculty, deemed "Carnegie Scholars," who are committed to inventing and sharing new conceptual models of teaching as scholarly work in a larger effort to advance the profession of teaching and deepen students' learning. The faculty are selected on the basis of prior engagement in investigating and documenting teaching practice and student learning as well as in working with peers and larger networks on the scholarship of teaching. Each scholar's project differs, from identifying the characteristics of a "good example" to assessing what students retain from science courses they have completed. As a collectivity, CASTL's projects are intended to share five characteristics, including exploration of teacher practice and the resultant student learning and a commitment to the development of students.

The primary purpose of the Carnegie Scholars' work is to create a community of scholars whose research will advance the profession of teaching and deepen the learning of students. But participation also requires a commitment—modest at best— from the participant's campus, including some release from "campus duties," $3000 for travel expenses, and a commitment to bringing the scholar's work to the attention of those on campus.

The second component of CASTL is the Teaching Academy Campus Program for universities and colleges in all sectors of higher education that want to make a commitment to new models of teaching as scholarly work. This program is run jointly with AAHE with the long-term goal of engendering a national network of campuses that provides a structure, support, and forum for the scholarship of teaching and learning. The campus program is a multi-tiered set of activities designed to initiate and build toward a network of institutions that have actually changed the definition and practice of teaching on their campuses. After conducting "campus conversations" about the scholarship of teaching as a problem to be studied "through materials appropriate to disciplinary epistemologies, application of results to practice, communication of results, reflection and peer review,"

institutions are expected to tailor this definition to their own situations and then select an area (or areas) for study and action, building on strengths, eliminating barriers, or bolstering campus ability to contribute to the scholarship of teaching and learning. Thus far, campuses have explored such issues as the effect of service learning on acquiring and generating disciplinary knowledge; intellectual property rights regarding syllabi, curricular materials, and web-based teaching materials; and instructional teams as curriculum builders (AAHE website [http://www.aahe.org]).

At a second stage, institutions "go public," opening their work to a wider audience for feedback and consumption. Grants of $5,000 are available for this step, which is intended to communicate campus outcomes. In the third stage of the Campus Academy program, selected institutions are invited to become members of a National Teaching Academy.

The final component of CASTL focuses on collaboration with scholarly and professional societies. The goal is to spread the notion of teaching as embedded in the disciplines by working directly with disciplinary and professional organizations of academics. CASTL has established a small-grants program to support activities such as the dissemination of examples of the scholarship of teaching and learning in the field, experiments with new outlets, and efforts aimed at making graduate programs in the field more responsive to new ideas about scholarly work.

It is still too early to gauge the impact of Shulman's and CFAT's efforts. Pat Hutchings believes that CASTL has successfully created a community of people who are interested in investigating and documenting teaching as scholarly work. She also believes that the profile of teaching and learning on campuses has been raised because the Carnegie name lends the programs prestige and legitimacy. By clearly defining "scholarly work," by providing support within scholarly societies, and by supporting campuses in their efforts to address teaching and learning, CASTL is developing the infrastructure necessary to convince higher education that teaching is a form of scholarly work (Conversation with Pat Hutchings, Dec. 1, 1999).

Her hopes reflect Shulman's goal to push the learning reform movement forward by adopting what is now the most common presumption of its protagonists from within higher education: reform will only occur when professors define teaching as a scholarly activity, seek to understand it as such, and revise their practices in light of their and others' research on teaching and learning. Simple to state, Shulman himself describes the shift from his previous focus on getting schools and teacher education programs to pay attention to disciplinary-based teaching to getting colleges and universities to take student learning seriously as one of the hardest tasks he has ever undertaken.

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The Reformers' Dilemma

Understanding how and why things happen illuminates the nature of any debate or attempt at reform. Understanding that the assessment movement was the result of the drive for accountability at the national and state levels—and *not* the result of local campus initiatives to improve teaching and learning—sheds light on why the major reform efforts were framed as demands and threats to colleges and universities that they show better performance. However, a genuine conversation on how to improve student learning depended upon those with a more intimate understanding of the complexities and political realities of higher education's value structure. Boyer, Cross, and Shulman believed that higher education had lost its way by creating and adhering to a status and reward system that subordinated collegiate teaching and student learning to research. Their views pointed to an even deeper failure: Professors acknowledged only minimal responsibility for student learning and student development. Enlarging the importance of teaching and expecting improved learning from students should not be viewed as primarily acts of accommodation, as faculty reactions to assessment suggest. Rather, they should be seen as opportunities to revise higher education's system of values.

The learning reformers started by using the research reward system itself as an avenue for change. If definitions of research could be expanded to encompass scholarship on issues of teaching and learning, the very reward system that dominated and warped higher education could be effectively used in its reform. Boyer's pleas to give teaching greater status through a scholarship of teaching and Cross' efforts to show how one could undertake classroom research and assessment to improve teaching and student learning put professorial practices in the service of new values. Shulman's models of teaching based on disciplinary knowledge reconceptualized professorial work along the lines that disciplinary-based faculty could appreciate. "The reason teaching is not more valued in academe," Shulman wrote, "is not because campuses don't care about it but because it has not been treated as an aspect of faculty's work and role within the scholarly community. If we can find ways to enact a view of teaching as scholarly work, I believe we can foster widespread faculty engagement around issues of student understanding" (Carnegie Foundation Website, page 1 [http://www.carnegiefoundation.org/]).

Others from within higher education joined the chorus. The American Association for Higher Education, prodded by close relationships to the reformers, took up the argument that higher education's value and reward system was at odds with the central obligations of teaching and student learning. AAHE undertook a series of projects on assessments and faculty roles designed to help colleges and universities make the assessment of student learning congruent with what faculty do. In addition to hosting national conventions, workshops, and symposia, AAHE's journal, *Change*, under the editorship of Theodore Marchese, regularly published articles during the 1980s and

1990s on assessment, new ways of teaching, and learning reforms—a process restimulated by Marchese's current efforts to review how the assessment of learning has evolved over the last decade. The CFAT regularly convened panels and meetings of scholars that resulted in reports such as *Scholarship Reconsidered* (Boyer, 1990) and *Scholarship Assessed* (Glassick et al.,1997).

Though rhetorically widespread, documented improvements in teaching and student learning are hard to substantiate. Although it received enormous national attention, Boyer's revised conception of a scholarship of teaching neither reshaped college and university campuses nor altered traditional teaching practices. While Cross' classroom assessment techniques achieved considerable popularity, reforms have primarily occurred within limited sectors of higher education, and even these may not be lasting. Her insistence that faculty engage in classroom research as a way to improve learning posed a serious threat to most professors' usual way of doing business. It appears to have had no impact on colleges and universities that continue to place scholarship in the disciplines at the forefront of their reward system. And Shulman's programs, while supported with substantial funding, are partially compelled by the premise "we will give opportunities to reformers and they will teach the rest," an uncertain foundation from which to initiate change in an industry or an organization.

The learning revolution seems far away. The disjunction we noted above in the amount of "assessment" occurring on campuses, on the one hand, and the lack of connection to teaching practice and faculty rewards, on the other, is substantial. There may be lots of campus conversations on alternative approaches to teaching and assessment of student learning, but there also appears to be little dialogue of substance and implementation at most colleges and universities actually enhancing student learning. The slogan "involvement in learning" is widely bandied about in a variety of forms, and there are hundreds of active classrooms where students take responsibility for their learning. Teaching techniques like the "one-minute paper" have likewise caught on. But such efforts have not yet led to serious assessments of student learning. Most strikingly, there have been few real changes in value or reward systems that remain fixated on faculty research and scholarly production, although many colleges and universities insist that teaching evaluations be part of faculty review for promotion and tenure.

The rhetoric and the limited changes suggest that the efforts to change teaching and improve learning are essentially battles over institutional values and rewards. Almost all the signals of the last half century said that scholarly productivity and research grants gave the institution value and brought rewards to professors—promotion, tenure, higher salary, and prestige in the free-agent marketplace. Gradients existed in the broad spectrum of colleges and universities, but even many of the institutions that defined their primary mission as teaching gave research grants and publications high

status. For those faculty who wanted to make teaching and student learning the centerpiece of their existence, little institutional support existed.

Professors remain connected to their disciplines; they teach subject matter and assess the students' levels of knowledge. They are highly resistant to efforts to make them more responsible for students' learning and hostile to external agencies, even their university's administration, holding them accountable. The pressure to change is blunted by the ever-increasing market demand for higher education. The classroom continues to be treated as a private domain protected by academic freedom. While there are a spate of institutional and some national awards recognizing outstanding teaching, and some professors have achieved prominence for analyzing why their students were not learning and then modifying their teaching, the recognition has done little to revise institutional cultures.[5]

The values/rewards dilemma was exacerbated by the origins of the learning reform movement. Initiated by fiscal concerns and criticism of higher education's organizational and governance structures, learning as reform was primarily an avenue to hold institutions accountable and to establish a basis upon which to make budgetary allocations. As state legislatures and governors concluded that student assessment was not leading to greater accountability and that the results were not aiding them in their fiscal decisions, they quickly shifted to performance outcomes that were relatively simple to measure and compare across institutions: retention and graduation rates, scores on standardized professional tests, acceptance rates into graduate schools, alumni salaries, student-faculty ratios and contact hours. The goal, as it had been from the early 1980s, was to hold higher education accountable for the funds it received.

And yet, if the revolution still is at some distance, the rumblings about learning have become too loud to ignore, especially as colleges and universities find themselves in intense competition for students. Community colleges, faced with growing competition from open access four-year institutions and from for-profit distance education suppliers and seeing students go through revolving doors, entering and leaving with regularity, are looking for ways to connect the college more tightly to job markets, to improve transfer programs to four year schools, and to create more sustainable learning environments. Four-year campuses are worrying about high dropout and low graduation rates, statistics that are fiscally costly, lower the institution's place in national rankings, and raise a red flag to public officials and accreditation agencies about educational quality. In response, they are instituting early identification and intervention programs for students experiencing academic difficulties and trying to connect those programs to learning. Highly selective institutions are modifying their self-descriptions to show that they are more student-learner centered than their rivals.

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Almost in spite of itself, higher education has been driven to experiment with learning. Residential and nonresidential institutions are trying out "learning communities" to connect faculty and students in the pursuit of improved learning. Efforts at curricular reform are increasing as colleges rethink general education and core requirements and introduce interdisciplinary majors. Discussions of using student portfolios to assess student learning are proceeding. Teaching experiments are receiving administrative support. The number of campus teaching centers is growing. In health education, competency-based learning is growing, with its attractions beginning to extend to other areas. And, growing rapidly, distance education and the use of interactive technology may challenge the most sacrosanct notions of teaching and learning. There is no revolution, but there is hope for change.

Endnotes

1. To counter the notion that there was no bottom line in higher education, as well as to differentiate itself from for-profit businesses, higher education began to refer to student learning as its bottom line. Public officials quickly acknowledged that but then turned back to higher education to demand proof that it was in fact producing results. See the discussion of the learning assessment and performance funding movements below.

2. We are acutely aware of the sharp differences among colleges and universities in the ways they treat research and teaching. But the ethos of research has been so powerful in the post-World War II era that its spillover has profoundly affected the status hierarchy, with the result that national efforts to improve teaching and learning have to take the research reward system into account.

3. The belief that schools and colleges could be reorganized into more powerful learning environments for students was being supported by an outpouring of research on how people learn, recently brought together in a report of the National Research Council (Bransford et al., 1999). The difficulty has been marshalling the political and economic resources necessary to lead schools and colleges to so reorganize themselves.

4. The Reports' impact at Harvard is difficult to assess. The Seminars engaged a substantial number of faculty so that conversation about teaching and learning could spread. The most concrete example of impact occurred in Harvard's Danforth Center for Teaching and Learning. Renamed in honor of Derek Bok, the Center shifted its almost exclusive focus on graduate student teaching assistants to pay more attention to faculty teaching.

5. For example, mathematics professor Uri Treisman, initially at the University of California, Berkeley and then at the University of Texas, Austin.

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